



PRESENTS

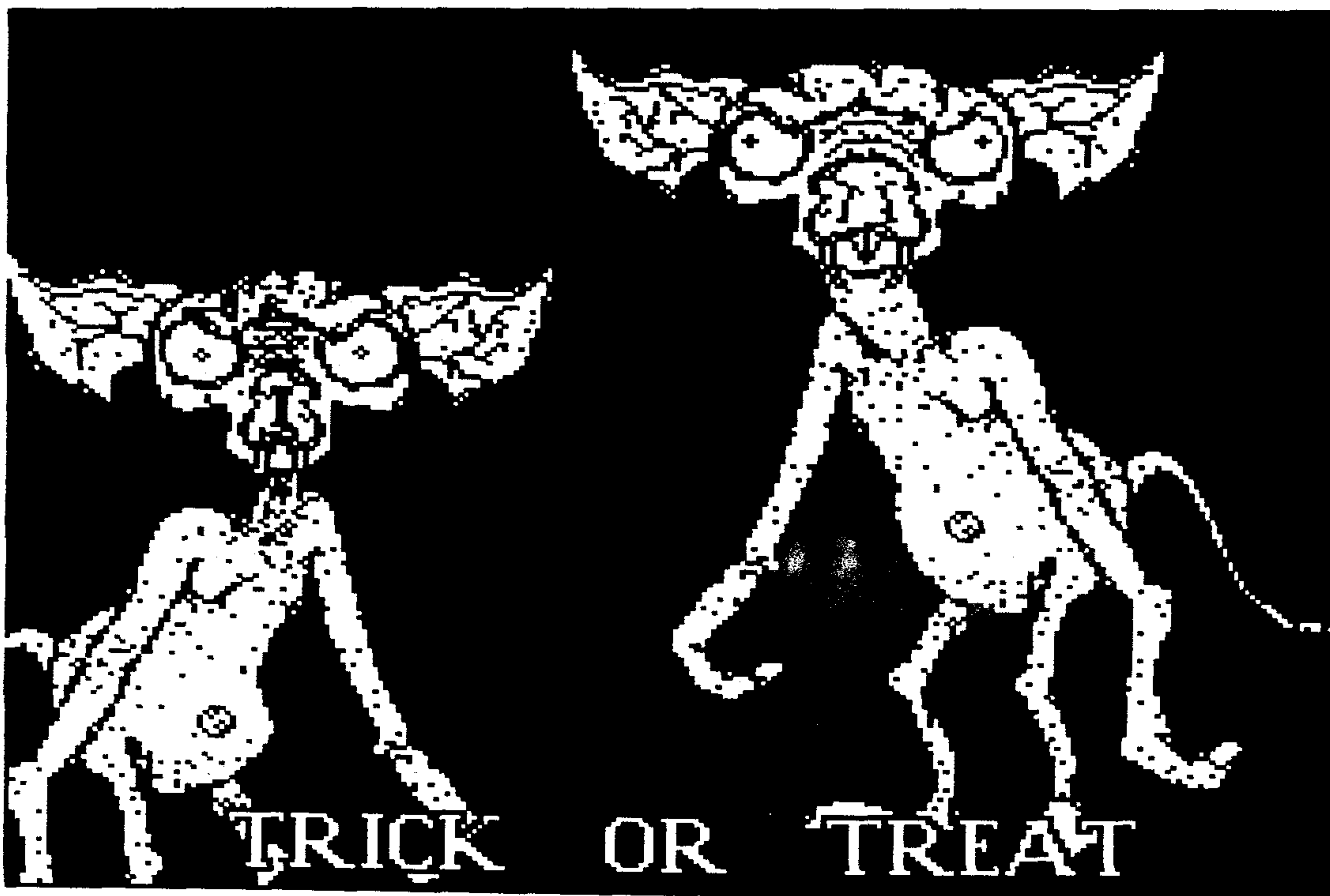
CHICAGO TIMES

NEWSLETTER OF THE CHICAGO TI-99/4A USERS GROUP

4th ANNUAL TI FAIRE ISSUE

OCT 31, 1986

EDITOR: Carole Goldstein



THE 4TH ANNUAL TI FAIRE....

will be held on Saturday NOV. 1, 1986 from 9:00 AM to 6:00 PM in the
IRONWOOD ROOM at TRITON COLLEGE. Seminars will be held all day in the
Fireside Lounge.

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MEETING DATES FOR THIS COMING YEAR ARE AS FOLLOWS:

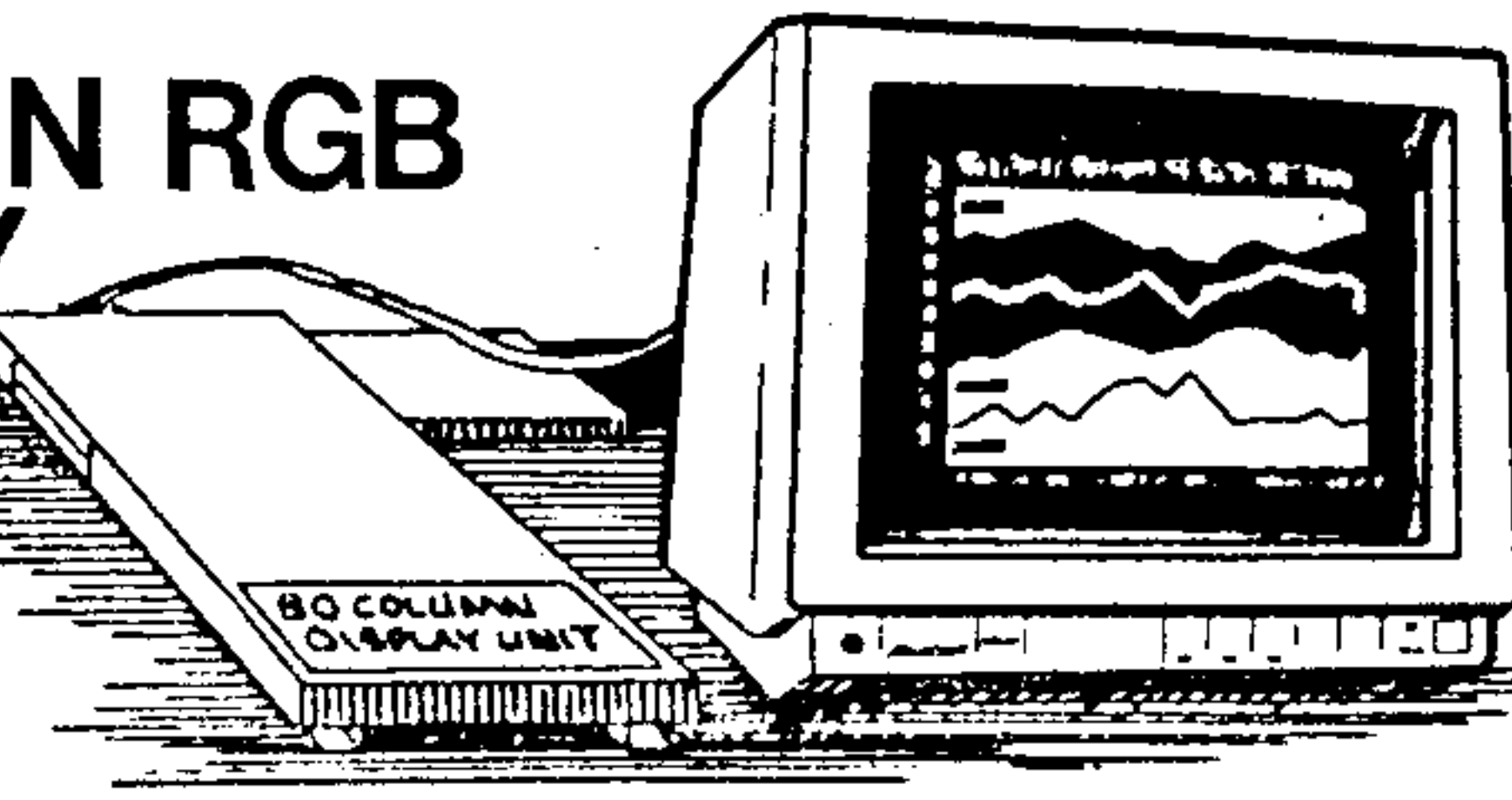
NOV 1 (TI FAIRE)

DEC 6

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80 COLUMN RGB DISPLAY

See our display at the Faire November First for these and more.



WATCH your TI 99/4A grow up! Imagine adding HIGH RESOLUTION GRAPHICS — 80 COLUMN TEXT/DISPLAY, more sprites and 192k of Video RAM memory. Best of all, this new Enhanced Graphics Adaptor Display (EGAD!) is compatible with any TI 99/4A computer system; from console only to full expansion systems. No extra memory or other peripherals are required. You will want a hi-resolution composite or analog RGB (red/green/blue) colour monitor to get the sharpest, clearest, most colourful and biggest display you've ever seen on the 99/4A.

Our 99AT expansion project is designed to provide:

- lower cost expansion system with more features than any other system;
- up to four disk drives in the system;
- five expansion slots for standard TI size cards;
- smaller connector cable;
- contemporary design and future upgrade;
- support for the Myarc 'Geneve' 9640 Family Computer system.

R/D COMPUTING Technical Newsletter

A major feature of R/D COMPUTING is the regular "upgrade projects." These electronic construction projects are designed to give the 99/4A owners more features and improvements. For example, it is possible to increase the speed of your computer with a very simple part and switch. Each month we present new circuits, diagrams and projects for your computer.

From the moment your 1986 subscription arrives at your home, you will have access to information that makes your computer more valuable, powerful and versatile.

We believe that the TI 99/4A deserves new products, innovative hardware, software, information and a dedicated publication. THIS is what makes a computer "viable" in the fast paced microcomputer industry. Now that the 99/4A has been 'opened up,' all the secret information is available. You can have all these benefits and more each month.

SUBSCRIBE NOW!

\$14/year - back issues 3-15 available

NEW FROM MONTY SCHMIDT: GPL LINKER V1.1 RunTime Version

GPL Linker is an ingenious program that places the power of Graphics Language Programming (GPL) at your command. No extra hardware is required beyond standard 32k and disk system. In short, Linker creates runnable program files from compressed (or uncompressed) GPL Assembler object files. You can then run these programs with "Option 5 Run Program Files" of the Editor Assembler Module.

Up to 24k GPL programs can be developed and run on standard 32k systems. Included in the run time version are two demonstration programs and "CONVERT," a public domain conversion program that converts MS BASIC statements to TI BASIC statements.

Price: \$21.00 CDN funds \$15.00 US funds.

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HALIBURTON, ONTARIO K0M 1S0
705 457-2774

New catalogue available.

FAIRE UPDATE: Sandy Bartels

CHICAGO-FAIRE NEWS UPDATE 10/9/86

The Chicago-Area TI-99/4A User's Group is proud to announce it's fourth annual TI-99/4A Computer Faire. Come to our Faire and see the latest software, (Games, Educational and Business Programs) and hardware now available for the TI-99/4A, including a new version of the TI99-computer that has been developed by MYARC, INC.

ASGARD announced that they are coming to the Faire with a new graphics & text product for the TI-99/4A that will rival the graphics on the Macintosh.

The TI-Faire Committee & PC-PURSUIT is happy to announce that only those people attending this year's TI- Faire will be able to join the economical PC-PURSUIT long distance telephone service without the normal \$25 sign up fee. This is an unusual development and could make it difficult to keep the IBM-PC people away from our Faire.

Come and be a part of the on-going learning experience by attending the free seminars to be held during the Faire. The tentative schedule of presentations will feature the these TI-Celebrities; Asgard with their newest products, Clint Pulley with a presentation on his C-99 language, Al Stump from the Tech Corner showing the proper care and maintenance of our consoles, J. Peter Hoddie with a musical tribute to the TI-99/4A, and Franz Waggenbach with a demo of his products from Germany.

The following is a list of vendors that have acquired booth space at this years' Chicago TI-Faire:

Asgard Software	Rockville	MD
BBS Computer Sales	Sheldon	IL
B & D Computer Supl.	Montgomery	IL
Boston Computer Soc.	Boston	MA
Bud Mills Services	Toledo	OH
Bytemaster Comp. Ser.	Sulphur	LA
C and G Drives	Northbrook	IL
Channel 99 Users Grp.	Ontario	CA
Competition Computer	Milwaukee	WI
Computer Download	Ann Arbor	ONT
Data Systems	Oxnard	CA
Databionics	Diamond Bar	CA
Databiotics	Greenfield	WI
Genial TRAVeller	Philadelphia	PA
Great Lakes Software	Howell	MI
Horizon Computer Ltd	Wallbridge	OH
Hunter Electronics	Elmhurst	IL
J/D Limited	Skokie	IL
L.L. Conner Ent.	Lafayette	IN
Micro Format	Prospect Hts	IL
Microsphere	Mishawaka	IN
Milwaukee Users Group	Milwaukee	WI
MYARC, Inc.	Basking Rdge	NJ
PC Pursuit	Reston	VA
Rave 99 Co.	Bloomfield	CT

Ryte Data	Haliburton	ONT
Softmail Inc.	Plano	TX
T.A.P.E. Limited	Ontario	CA
Tenex	South Bend	IN
Texaments	Patchogue	NY
TI Forum (Compuserve)	Rockville	MD
Tigercub Software	Whitehall	OH
Trio Software	Liscomb	IA

THIS LIST OF VENDORS HAS ACQUIRED ALL OF THE BOOTH SPACE NOW AVAILABLE.

The Chicago-Area TI-99/4A User's Group invites you to attend this year's Faire being held on Saturday, November 1, 1986, between 9:00 A.M. and 6:00 P.M., at Triton College Campus 2200 N. 5th Ave. in the Ironwood Room of the Student Center. Triton is located 1/4 mile north of Maywood Park race track in River Grove, Illinois. There will be a \$2.00 admission charge.

If you are unable to attend this year's Faire, you may still participate in this resurgence of interest in the TI-99/4A computer, by joining the Chicago-Area TI-99/4A User's Group. For further info contact: The Chicago-Area TI-99/4A User's Group Attn: Membership Chairman P.O. Box 578341 Chicago, IL. 60657.

WHAT: The Chicago-Area TI-99/4A User's Group Computer Faire

WHERE: Triton College - 2200 N. 5th Ave. River Grove, IL.

WHEN: Saturday November 1, 1986 - 9:00 A.M. to 6:00 P.M.

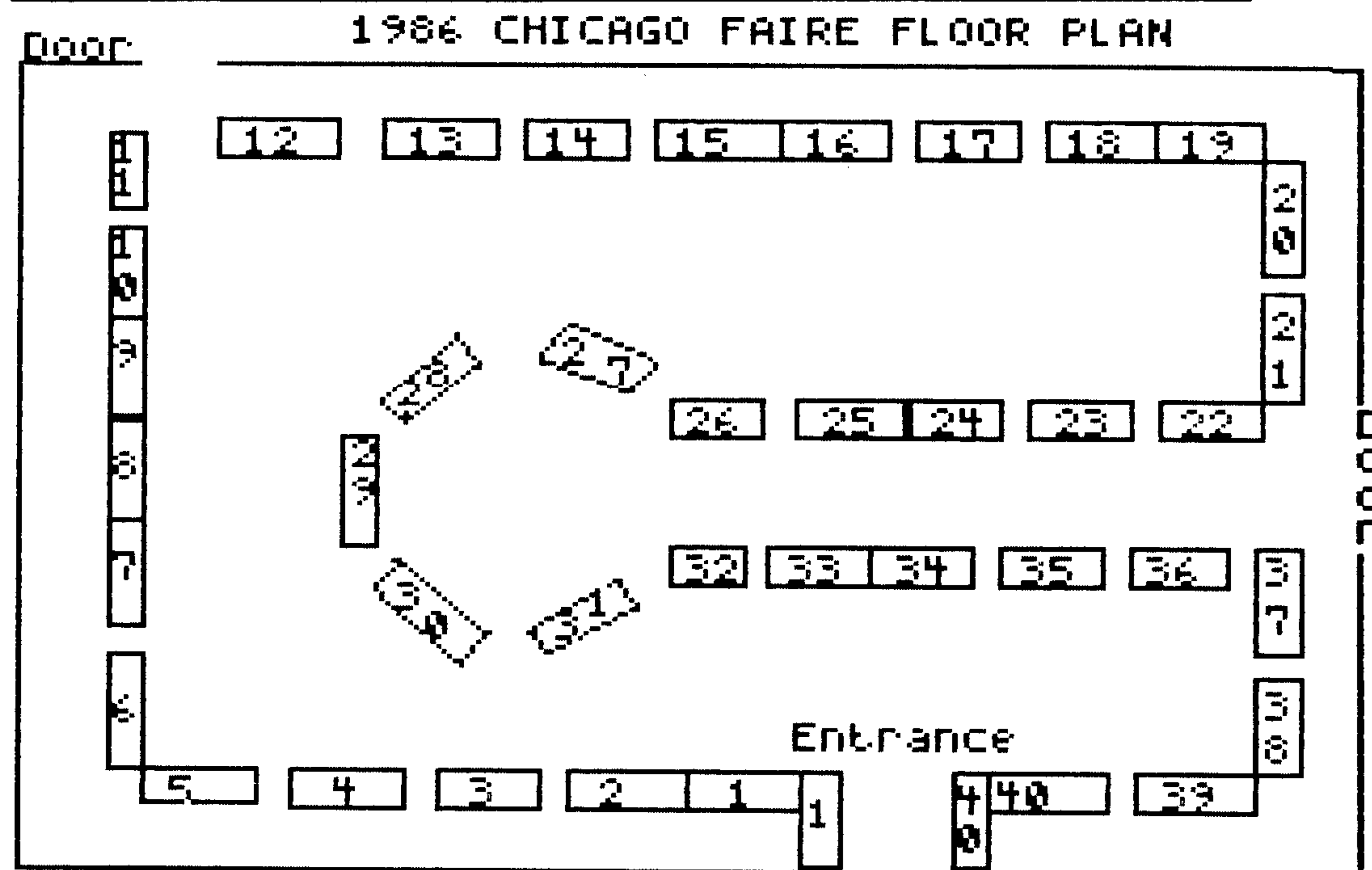
For more information write to the Chicago-Area Users' Group, Attn: Faire Committee, P.O. Box 578341 Chicago, IL. 60657, or you may call our member Grant Schmalgemeier at (312) 477-0690 between 10:00 PM to 11:30 PM Central Time. For motel reservations close to the Faire call our member Thomas Kaar at (312) 579-0072 from 4:30 PM to 10:00 PM Central Time. Take care you don't miss the Chicago TI-99/4A Faire.

For those of you who just can't get enough TI-99/4A information and opportunities to purchase new products, the Chicago Faire Committee is pleased to announce a TI-99/4A Faire in Milwaukee on Sunday the day after the Chicago Faire on November 2, 1986 from 9:AM to 4:PM. For more information on the Milwaukee TI Fair contact Don Walden 414-529-5161 or write him at P.O. Box 244 South Milwaukee, WI 53172.



THE CHICAGO-AREA TI-99/4A USERS GROUP INC.
1986 FAIRE SCHEDULE OF EVENTS

- 9:00 AM ----- Chicago-Area TI-99/4A Faire opens its' doors.
- 10:00 AM to 12:00PM Arcade games contests & ASGARD SOFTWARE presents their latest products until 10:30AM.
- 11:00 AM to 12:--PM Clint Pulley makes his Chicago debut with his C-99 language past, present, and future.
- 12:00 PM to 1:00 PM Lunch, is where you can find it!! The BurgerKing?
- 12:15 PM to 1:00 PM If there are enough visiting Users Groups who are interested, there will be an Open Forum for TI Groups starting at 12:15, covering Users Group problems, and their possible solutions.
- 1:00 PM to 2:00 PM Lou Phillips from MYARC Inc. demonstrates their new TI-99/4A compatible computer.
- 2:00 PM to 3:00 PM Tech Corner by Al Stump, from our own Chicago Group, will demonstrate care and maintenance of your TI, and as time permits, show how to install 32K in the console, and make your own Super-Cartridge.
- 3:00 PM to 4:-- PM Peter Hoddie presents a program on music. Peter says that he will have a real surprize for us all.
(Don't miss this one music lovers!)
- 4:30 PM to 5:-- PM Franz Waggenbach from T.A.P.E. will demo products available from his company.
- 6:00 PM ----- Chicago-Area TI Faire closes its' doors for another year. Many participants are seen weeping openly.



- | | |
|---|-------------------------------------|
| (1&2) J/D Limited | (3) Ottawa Users Group |
| (4) Boston Computer Society & Disk-A-Zine | (5) B & D Computer Supplies |
| (6) Softmail | (7,8,9,10) Competition Computer |
| (11 & 12) Databionics & Databiotics | (13) Bud Mills Services |
| (14) Horizon Computers Limited | (15,16) RYTE Data |
| (17) Asgard Software | (18,19) Micro Format |
| (20) Great Lakes Software | (21,22) BBS Computer Sales |
| (23) Tenex | (24,25) L.L. Conner Enterprises |
| (26) Tigercub Software | (27) Bytemaster Computer Services |
| (28) Texaments | (29) Myarc Inc. |
| (30) Channel 99 Users Group | (31) Data Systems |
| (32) Trio Software | (33,34) CHICAGO TI USERS GROUP |
| (35) T.A.P.E. | (36) Rave 99 |
| (37) PC Pursuit | (38) Compuserve |
| (39) C & G Drives | (40) Hunter Electronics |

THE DISASSEMBLY: Dave Wakely

Yes, I know I said I was going to talk about the history of the group this month, but that was before I got caught up in the fourth annual Chicago TI Faire preparations. And that was also before the October group meeting literally went down the drain in the great Chicago October flood. The group apologizes to and congratulates any member who managed to make it to Triton College on October 4. It appears this was chiefly those members who live west of River Grove, since the town was quite inaccessible from the east. In case you didn't hear, on October 3, the day before our meeting, the mayor of River Grove declared the town an island, and urged anyone who didn't live there to stay away. Some members later reported being turned away from the town by National Guard troops stationed at various access roads. While the leadership of the group is both intelligent and resourceful, they are also no fools, and the decision was made to cancel the meeting, with the word passed as well as possible in the short amount of time available. There is absolutely no truth to the rumor that Sam Pincus and Dave Wakely had performed a rain dance because they were running out of ideas for group meeting presentations. On the other hand, the real culprit was exactly pinpointed by group mascot Grant Schmalgemeier whenever he does his usual chant: "Des Plaines, boss, Des Plaines!!"

Those working on the Faire, especially chairperson Sandy Bartels, hardly missed the meeting, considering the amount of work that has gone into the preparations for this year's event. There is probably a list of participating vendors in this newsletter, but the last word I had was that there would be 30 different vendors taking up a total of 40 tables of display material. This alone should give everyone the chance to purchase just about anything imaginable for the 99/4A. I can practically guarantee that if they make it for the TI, you can either see it or purchase it at this Faire. As of about two weeks ago I can also report that the Faire is technically "sold out", meaning that there is literally no room in the 7,500 square foot Ironwood room to squeeze in another vendor. I know this because we tried to do it on paper, and ALL the space is GONE! We also well remember how last year, when there were 26 vendors and 31 tables, that it was quite difficult to get to many tables due to the crowd. We therefore avoided overcrowding the floor, as we still have some fear of "computer Faire gridlock", whereby no one can get to any table until someone leaves the room!

It will no doubt be crowded again this year, but you should be able to maneuver the main floor. The Faire committee does ask everyone to have patience with the lines at the entry door and at the vendor tables. Please note that the Faire hours this year have been extended, and it will run from 9AM to 6PM. Hang in there and you will get to see everything you want to see. If it gets too close for you, cool out in Burger King for awhile, then try it again. The presentations will be up in the Fireside Lounge, just like the last two years, and the schedule will be posted. And just how many TI users will show up? I will not even hazard a guess this year. I would suggest that if you haven't thrown out your Friday, October 24 issue of the Chicago Sun-Times (hey, did they steal that name?) that you check it carefully. Somewhere in there is an advertisement for this Faire! It cost us a bundle, but our goal is to eventually reach every TI-99/4A user in the Chicago area. We also mailed announcements to every TI user group in the country for which we have an address.

Our tireless library workers will be on hand with literally hundreds of pre-copied disks, and we will once again be doing the doorprizes, the monitor raffle, and the arcade game contests for the kids (or for adults who still have reflexes left). It will also be too noisy, meaning you will have to pay attention to hear the announcements, and expect your feet to get tired from all the standing. This will be partially relieved by the fact that by the end of the day your wallet will be considerably lighter. The Faire committee does recommend that as much as possible you pay for your purchases with checks to minimize change requirements and to speed purchase time. The group membership committee also wants you to know that it is perfectly okay to renew your group membership at the Faire. They will be at their own table, and renewal for all of 1987 is \$15 now, \$18 after January 1.

One of the purposes of this column is to dissect the "meaning" of some of the goings on in the TI world, but sometimes these things just can't be clearly predicted or understood. It is ironic coincidence that our Faire falls near the anniversary of the TI "Black Friday" pullout. In case you have forgotten, the anniversary is October 28, just four days before this year's Faire. The counterpoint to the TI users collective bad memory is the Chicago TI Faire, a celebration of what we ourselves can accomplish. The exact explanation of how we have come as far as we have in the past three years positively defies description. There is better software, better hardware, and more important, more enthusiasm now than ever. The appropriate answer to the question, "How long can it last?" seems to be, "How long do you want it to last?"

Perhaps psychologically TI users are incapable of small expectations. We want more and better software, larger groups, bigger Faires. Maybe this is especially true in Chicago, where this group sometimes seems to aspire to the title of the "Chicago Bears of TI user groups". If so, then the Faire is our Super Bowl, and a rout of pessimism is predicted. Occasionally, of course, we fumble (Are the Minnesota Vikings a TI user group?). One such fumble occurred when, despite the hundreds of people in this group, we couldn't round up enough volunteers to donate their systems for the day for the out of town vendors to use. The group wishes to thank those members of the Milwaukee TI Users group who are bringing down their systems to help out. This should also remind us we aren't always the super group we like to think we are. You can repay the favor by remembering that the Milwaukee TI Faire is on Sunday, November 2. I'm sure there will be directions available at the Chicago Faire if you want to find them.

I know of no big announcements or "surprises" planned for the Faire by anyone, unless of course everything happens exactly as planned, which is always a surprise with an undertaking this big. Expect something to go wrong, expect lots of rumors about new hardware and new machines, but mostly, expect to have a good time. See you in the crowd at Triton!

BASICALLY YOURS: Rich Klein

Here comes the Faire! Here comes the Faire! Brace yourselves for the FOURTH Annual TI Faire. It goes without saying (Es geht ohne zu sagen, for some of our visitors) that this will be bigger and, of course, better than the three previous gatherings. There will be plenty of vendors, guests and demonstrations. Look elsewhere in this issue for lists and details of same.

In this issue, we will depart somewhat from the norm, and examine some Extended Basic statements. Usually I illustrate ways of doing things in TI Basic because virtually every TI user has that. A lot of you also have E/B, but a lot still don't. It's for that reason that I use TI Basic. Most of the routines can easily be converted to E/B.

Extended Basic has an enormous amount of enhancements over TI Basic. In fact, it is so much more powerful that, while I don't recommend you open the module, if you did, you would find that it is literally a module with sideboards. A regular module couldn't hold all there was to E/B, so they employed a bank switch so they could put more in it.

We will barely dent the surface of this module and discuss the following statements:

DISPLAY AT...ACCEPT AT...CALL CHARPAT...AND...RPT\$...better IF-THEN-ELSE and use statements found in Basic and Extended Basic to hold everything together. In illustrating these statements, we will build a simple BANNER program for a print device.

First, let's cover each statement starting with:

DISPLAY

This is used to place text on the screen and includes several useful options. One is ERASE ALL which clears the screen like CALL CLEAR, but doesn't require a separate statement to do it. This also saves memory space because ERASE ALL is represented internally as a one byte "token" while CALL CLEAR, being a subprogram, requires six bytes of memory; one byte CALL token and one byte for each character of the subprogram's name: CLEAR.

You can get the users attention by including BEEP in this statement. This will cause an Input style "BEEP" when the text is DISPLAYed.

When you display something on the screen, every character position from the beginning of the displayed information all the way to the end of the screen line is blanked. If you are exercising a tight screen format and don't want the rest of a particular line blanked, then the SIZE(nn) option is for you. If you place a number in place of the 'nn' in the parentheses with a number then that amount of character spaces only will be blanked. If the number exceeds the remaining positions to the end of the screen line, then only that line will be blanked. Blanking does not resume on the next line.

The real biggie, of course, is the AT(rr,cc) option. This option allows the text to be placed anywhere on the screen. Simply place a value for the row (rr) and the column (cc) in the parentheses, and presto!, your text appears there.

The DISPLAY options can be placed in the statement in any order. If you use any option, you must separate the statement from your text to be displayed or variable list with a colon (:). This is only necessary if you use an option. If you use just plain old DISPLAY and a variable, then no colon is necessary.

Another interesting option is the USING option. USING is an option available to PRINT and DISPLAY. When utilizing the USING option it must be placed after and separated from the rest of the options list using, again, a colon. Let's see:

```
100 DISPLAY AT(10,12)ERASE ALL SIZE(10)BEEP:"X+Y=";Z
```

```
100 DISPLAY AT(10,12)ERASE ALL BEEP SIZE(10):USING 90:"X+Y=",Z
```

```
100 DISPLAY AT(10,12)BEEP ERASE ALL SIZE(10):USING "#### #": "X+Y=",Z
```

These are all ways to DISPLAY the same information. Notice the syntax when the USING option was used. The USING clause was isolated by colons and the variable list items were separated by commas and not PRINT delimiters. If anything other than commas were used, an error would result. You can use a semicolon after the list of variables to position the next PRINT items, if any.

While PRINT can be used with an external device as well as the screen, DISPLAY can only be used with the Display screen (your TV or monitor).

ACCEPT

ACCEPT is used in place of an INPUT or LINPUT statement. Again, it is only used in conjunction with your screen. You do retain full editing capability with Left Arrow, Right Arrow, Delete, Insert, and Erase. In addition to all the options available with DISPLAY (except USING), there is an improvement on the SIZE option and you can trap errors before they can occur with the VALIDATE option.

The SIZE option is changed to include the possibility of negative field lengths. When using the SIZE option with ACCEPT, you limit the maximum length of any inputted response. With a positive value, that many spaces are blanked prior to accepting input. If a negative SIZE is specified, then no spaces are blanked, although you are limited to that maximum length (disregard the minus sign). Where a negative value is of great use is that you can DISPLAY a prompt with a proposed response and then use ACCEPT and specify the co-ordinates of the proposed prompt. If there is anything on the screen at that location, then it can be ACCEPTed as an input whether or not it was DISPLAYed there or just entered by the user. Here's an example:

```
100 DISPLAY AT(4,1):"ENTER PRINT DEVICE: P10":ACCEPT AT(4,21)BEEP
VALIDATE(UALPHA)SIZE(-10):DEV$
```

If you noticed that the proposed response "P10" begins at row 4, column 21, then you may also know that the cursor will appear on the "P" in "P10". If you like this proposed response, then press "ENTER" and it will be ACCEPTed as an input. If you don't like it, simply type over it and whatever you type will be ACCEPTed instead. What you type will be subject to VALIDATE screening as it is typed, if this option is included in the statement.

And that brings us to the VALIDATE option. This option allows us control over what is to be ACCEPTed or not. There are several datatypes available for your use. These are:

UALPHA

DIGIT

NUMERIC

String expression (user defined)

UALPHA will allow only uppercase characters to be entered. Anything else will generate a warning tone and not be accepted.

DIGIT allows only digits, 0 through 9, to be entered. Anything else will be rejected.

NUMERIC accepts digits, decimal points, numeric signs (+ and -), and the "E" operator, which is used to express scientific notation.

You can also select characters to be ACCEPTed by placing them into a string and using the string as the datatype in the VALIDATE option. If this is done, then only the characters represented in the string will be ACCEPTed. All others will not be allowed.

If you wish to allow more than one datatype or string, then separate them with commas. Also, if you use the SIZE option with a negative value, then any character(s) placed previously on the screen will be ACCEPTed without VALIDATE screening. I don't know if you would want to, but, if you use SIZE(0) or VALIDATE(""), then all that can be entered is a null string. In other words, all you would be able to do is press "ENTER".

CALL CHARPAT

CHARPAT is a subprogram that allows us to retrieve a character pattern from deep within the console's circuitry. If we indicate that ASCII code that we need the pattern for, and a return string variable to place the pattern in then we will get a hexadecimal code that represents the pattern we asked for. Like this:

```
100 CALL CHARPAT(65,PAT$):: PRINT PAT$
```

If we ran this line then we would see on the screen:

```
003844447C444444
```

This is the pattern for the letter "A", which has an ASCII code of 65. If you are not sure of how to interpret hex code, look on Pg. 56-58 of the E/B manual for more details.

AND

AND is considered to be a logical operator and is evaluated on a binary level. That is, if you say:

```
PRINT 5 AND 6
```

Then a four would appear on your screen. But I thought that 5 and 6 were 11. It is if you consider it in decimal and think of and as meaning plus. When considering AND as a logical operator, then we must first convert the numbers to binary. Then we must stack one number above the other. Any ones that line up will place a one in the resulting value. If the numbers are zero, or not the same, then the resulting bit in the result will be zero. For example:

```
5      101
6      110
-      ---
4      100
```

The numbers on the left are decimal and the numbers on the right are their Binary equivalents of those numbers. Consider one number, number A, and the other number, number B, then in Binary, if Bit A=1 AND Bit B=1 then Bit C=1 or else Bit C=0. So both

bits must be one or the result will be zero.

RPT\$

RPT\$ is used to create a repetitive string of characters. Its uses are only limited by your imagination. When using RPT\$, specify the string you want to repeat, and how many times you want it repeated. It looks like this:

```
100 A$=RPT$("HI",4)
```

If you PRINT A\$, then you would see "HIHIHIHI" since this "HI" repeated 4 times. Simple enough.

The Program

There are many ways to write a banner program; a lot of them quicker than this. This one is perhaps one of the shortest programs of this type and it illustrates the statements discussed and concepts to be discussed.

To construct a banner, we need to:

- 1) Get the Information to be printed on the banner.
- 2) Look up the character pattern of each character and change it into a binary code and store it in an eight by eight array.
- 3) Shift the array on its side and print a RePeaTed \$tring if a bit equals one or spaces if it equals zero.
- 4) Do the necessary housekeeping to make it work.

First, we'll find out where we need to send the printer info. This is done with a DISPLAY and an ACCEPT. Then we'll use that info and OPEN a file to that device. To allow for different linefeeds, we'll ask for character width with another DISPLAY-ACCEPT combo. Then we'll get the characters we want printed in much the same way. After this is done, then we can get down to work.

Let's see how it looks so far:

```
240      DISPLAY      AT(1,1)ERASE      ALL:"OUTPUT      DEVICENAME?"      :: ACCEPT
AT(2,1)VALIDATE(UALPHA)BEEP:DEV$ :: OPEN #1:DEV$ :: DISPLAY AT(4,1):"CHARACTER WIDTH?
(2-8)"
250 ACCEPT AT(5,1)VALIDATE("2345678")SIZE(1)BEEP:W :: DISPLAY AT(7,1):"ENTER TEXT:" ::
ACCEPT AT(8,1):T$ :: H$="123456789ABCDEF" :: BIT=8
```

Notice the string and numeric variables on the end of Line 250. These will be used in our hexadecimal and binary conversions and will be explained when we do them. The next thing we must do is set up a way to get each character of our text string. This is done with a FOR-NEXT loop. In this loop we need to get the pattern of the particular character we're working on. We can use CALL CHARPAT, but we need to single out of character from the entire string and convert it to an ASCII value. We'll use SEG\$() and the loop counter to get the character from the string like this:

```
SEG$(T$,X,1)
```

Then we'll convert it to ASCII like this:

```
ASC(SEG$(T$,X,1))
```

Then we can use this ASCII value with CHARPAT to get our character pattern into the string variable which we'll call P\$. (Original, huh?) Our next line then would look

like this:

```
260 FOR X=1 TO LEN(T$) :: CALL CHARPAT(ASC(SEG$(T$,X,1)),P$)
```

Once you know how its done, it's not too difficult to figure out how to combine statements to save space. I forgot to mention that the size of this loop is controlled by the LENgth of T\$ (our text).

Next we need to convert each hex digit to decimal, which will yield a value between 0 and 15. We need another loop, H\$ and the POS() function. We need also to use the loop counter and SEG\$() to keep track of which hex digit we're working with.

A word of explanation is in order here. Each character pattern is composed of sixteen hexadecimal digits. A character uses an eight pixel by eight pixel square on the screen and each hex digit defines the pattern for four pixels across. A pixel is the smallest dot a computer can generate and is either on or off (Binary 1 or 0). Since each character is eight pixels across, then we need two hex digits to define one row of pixels in a character.

Each time we loop through we'll get and convert two hex digits, so we'll decode a row at a time of the character's pattern. This is done with the STEP option of the FOR-NEXT statement:

```
280 FOR A=1 TO 16 STEP 2 ::
```

In the first loop through, A will equal one and the second time it will have two added to it to equal three and so on until the value of A exceeds the maximum value of the loop. Once we get a loop value we can use it with the SEG\$() function to extract a hex digit. This is done in a manner similar to the SEG\$() example above:

```
SEG$(P$,A,1)
```

Remember, P\$ contains the character pattern we are working with. A is the loop variable and the last value indicates that we only want one character from the string. Once we have the hex digit, we can determine its decimal equivalent by finding it POSition in our previously created H\$:

```
POS(H$,SEG$(P$,A,1),1)
```

With this statement, the POSition of our hex digit is reported back and we can use it further. Why is there no zero in H\$ and what happens if our hex digit tested is a zero? If you use POS() to find the POSition of a character or string the does not exist in the other string, then POS() reports back a zero to indicate it did not find what you were looking for. Since we were looking for a zero, this is fine with us.

Using the POS() function in our case, if the hex digit we were looking at were an "E" then the POS() function would return with a 14 which is the DECIMAL equivalent of HEX "E", since "E" is in the fourteenth position in H\$.

Now that we've converted to decimal, we can convert to binary. Again we need another loop. Since each hex digit indicates four pixels or Binary digiTs, then our latest loop needs to go from one to four. We can add to our program line in progress:

```
280 FOR A=1 TO 16 STEP 2 :: FOR B=1 TO 4 ::
```

We now need to convert the result of the above expression to binary. This is where the AND operator comes in. The largest value a hex digit can represent is 15, decimal. In Binary, this is b1111. Each binary digit has a specific value depending on it place in

the number. the units place can be one or zero. The next place is 2 or zero, then 4 or zero and, finally, eight or zero. the fact that each place is double in value to the previous place will be used to our advantage later. In Line 250 we set the variable named BIT to 8. Bearing in mind the previous discussion of the AND operator, if we AND the variable BIT with our decimal equivalent of our current hex digit, we can tell if the left Binary digit is a one. the left digit, if it is a one, will equal eight, and since BIT=8, if we AND them together, then the result will be eight. I'm going to use my calculator's random number function right now to come up with a number for the following example to illustrate how ANDing with BIT works. Remember, right now BIT=8:

```
XX=7 :: ZZ=XX AND BIT :: PRINT ZZ
```

In this case, ZZ would equal zero since 7 is b0111 and 8 is b1000. If XX was equal to or greater than eight, then there would be a one in the eights position and the result of the ANDing would be eight. Let's illustrate with decimal 12 and follow it through

Decimal	Binary
12	1100
AND 8	1000

8	1000

When the ones in any given position line up, then the result will be one in that position. If not, then it will be zero. You might ask, why bother doing hex and binary math in decimal? That is because we are limited to decimal math in Basic, even with Binary operators. So we must make do with what we've got. Remember, you only have to program it once and you can use it over and over again without having to do that math again.

So, now we have adecimal result based on binary conversion. We need to make it into a one or zero to truly serve our purpose. Since, we know that if a bit tested with the AND function will either yield a result or zero then the SiGN of that number will either be one (positive) or zero. If we get the sign of the result, then we can have true binary values:

```
SGN(POS(H$, (SEG$(P$,A,1),1)AND BIT)
```

This formula takes a hexadecimal digit and singles out a single binary digit depending on the value of BIT. If we put this into our B loop, and after each loop, divide BIT by 2, then we will have checked each Binary position and set its SiGN accordingly. Now that we've gone through all the trouble it took to do this, where can we put it so it will be of use to us? Let's construct an array where each element of the array would correspond to a pixel position in our character pattern. Then we could use this pattern to determine what to send to the printer.

The B loop was set up with a STEP 2 option. This was done so that we could work on an entire row at one time. The results of the previous formula will be placed into an eight by eight array. In this two dimensional array, we will construct an exact duplicate of the character pattern by using the first subscript of the array to indicate the bit-row of a givaen pixel. We will use the second subscript to indicate the bit-column. The values contained in each element of the array will be a one, to indicate the pixel is turned on. If it contains a zero, then that particular pixel is off. Since the loop we're using has a range of sixteen, and we're using STEP 2, then we need to divide the result of the loop by two and add one to get a proper row value (this is the A loop). The B loop is easier to control. This indicates which bit column we're working on and goes from one to four. Because we decided to do an entire row at a time, we'll just work the formula twice and use B for the first one and B+4

for the second one. Now our Line 280 will look like this:

```
280  FOR  A=1  TO  16  STEP  2  ::  FOR  B=1  TO  4  ::  
C(INT(A/2+1),B)=SGN(POS(H$,SEG$(P$,A,1),1)AND BIT)  ::  
C(INT(A/2+1),B+4)=SGN(POS(H$,SEG$(P$,A+1,1),1)AND BIT)  ::
```

Quite a mouthful for one line. That's the nice thing about Extended Basic. You can be as complex as you need, and still be very concise. One line of code ferrets out eight pixels and stores them in their proper places in the array. Let's go on.

The next line in our program will perform some housekeeping for Line 280. Since each bit-column has a value that is half the one to the left, we must divide our variable BIT by two before we can increment loop counter B. Then, after B has counted out, we know that we will be working on a new row and we need to reset BIT to eight before incrementing loop counter A to its next value. Here's how it looks:

```
300 BIT=BIT/2 :: NEXT B :: BIT=8 :: NEXT A
```

Not much of a line, but if it is done wrong, what a mess we'll have! With Line 300 we're done with the decoding logic. What's left to accomplish is the printout of the array. We need to print out the array and we want to "stretch it across the page. Not only that, but we also, for fun, want to print the banner character sideways and use the same character that we're printing to make up the parts of the character. In other words, if we are printing a large "P", we want it to be composed of many little "P"'s.

First, to print the character we're working on we must remember we are still within the loop which keeps track of the character we are working on, and only after we finish printing this character will we increment this X loop. In the meantime, we can use this with SEG\$() to determine which character in our text string to print, like this:

```
SEG$(T$,X,1)
```

Easy enough, but how do we "stretch it across a page? We can use the RPT\$() function. If you think about it, since most printers are 80 columns across, and our character is eight pixels in any direction, then if we print a character ten times for each pixel, then we can cross the page with one character. Before we go any further, let's examine a representation of our character in an array:

	COLUMN							
	1	2	3	4	5	6	7	8
1	I	I	I	I	I	I	I	I
2	I	I	I	I	I	I	I	I
R	I	I	I	I	I	I	I	I
4	I	I	I	I	I	I	I	I
O	I	I	I	I	I	I	I	I
6	I	I	I	I	I	I	I	I
W	I	I	I	I	I	I	I	I
8	I	I	I	I	I	I	I	I

Now, if a space has a one in it, then we want to print the character we are working on ten times on a line. If it has a zero in it, then we want to print ten spaces instead. To do this we can set up our loops and compare our array element to zero. If it does not equal zero, then we'll print ten characters. If it does then we will print ten spaces. It would look something like this:

```
IF C(B,A)THEN PRINT #1:RPT$(SEG$(T$,X,1),10);ELSE PRINT RPT$(CHR$(32),10);
```

I placed a CHR\$(32) in the line for readability. You could just as easily use " " instead. But why are the subscripts switched? Since we want to print sideways, each line on the paper would correspond to one bit-column of our character. This we can multiply with our W variable and use that to repeat a line (column) W times. Also, so the letters don't print upside down and backwards, we will read the rows of the array in reverse order. We used semi-colons to "string" together the RPT\$ strings. Regardless if they are characters or spaces, we need eight of these to form one line on the paper. If semi-colons weren't used, then each RPT\$ would be printed on a different line.

Once we've completed a line, we need to go to the next line. This can be accomplished by placing a CHR\$(13) after the line. This generally forces a linefeed and causes the printer to empty its buffer and scroll the paper up one line. We can place this after the NEXT B in line 330 because this is where the program ends up after each line is completed.

We've discussed how to transpose the matrix (array) we've created to make it print sideways and down and how to read ones and zeros and make it print character strings instead and how to format each line and send it to the printer. Let's see how it looks:

```
320 FOR A=1 TO 8 :: FOR D=1 TO W :: FOR B=8 TO 1 STEP -1 :: IF C(B,A)THEN PRINT  
#1:RPT$(SEG$(T$,X,1),10);ELSE PRINT #1:RPT$(CHR$(32),10);  
330 NEXT B :: PRINT #1:CHR$(13) :: NEXT D :: NEXT A :: PRINT #1: CHR$(10);CHR$(13) ::  
NEXT X
```

- The last items on the program line are as follows:
- 1) NEXT D repeats the line W times so you can adjust the fullness of the letters as they are printed.
 - 2) NEXT A gets the next bit-column of the character (or next line to be printed).
 - 3) PRINT #1:CHR\$(10);CHR\$(13) adds lines between letters. After the A loop counts out then the letter is complete, and the program ends up here. Any combination here is O.K. Try different things and see what happens. Also you can try different things after NEXT B on this line.
 - 4) NEXT X increments the whole program and gets the next character in the text string to work on. Then this whole procedure is repeated.

The next line is a delay loop and returns for another banner output. The following line closes the printer file and ends the program. As written, the program makes no provision to branch to this line when the user is done. I will leave that minor detail to you. Also, you may notice that the line numbering is odd. This is because the listing that follows contains several REM (!) statements which I hope will aid you in following the logic of the program. In addition, this program is deliberately spartan in content. It not only was written exclusively to illustrate statements and concepts discussed within this article, but I figure if any of you liked it, you could hang your own routines on it or include it as a routine elsewhere.

In closing, and before including the listing to follow, I'd like to apologize to you for the length of this column. When I started this, I had no idea that it would take up this much space. I'd also like to say sorry to our fearless newsletter editor who

is just getting over an illness to face the monumental task of putting together this newsletter. I guess I just made the task a little more monumental. Sorry.

The listing for what was discussed follows. The Faire is next. I'll be there. You be there (and enjoy). See you then.

```

100 !*****
110 !*          *
120 !* BANNER EXAMPLE *
130 !*          *
140 !*   PROGRAM   *
150 !*          *
160 !* BY RICH KLEIN *
170 !*          *
180 !* CHICAGO GROUP *
190 !*          *
200 !*****
210 !
220 ! REQUIRES EX. BASIC AND PRINTER
230 !
240 DISPLAY AT(1,1)ERASE ALL:"OUTPUT DEVICENAME?" :: ACCEPT AT(2,1):DEV$ :: OPEN
#1:DEV$ :: DISPLAY AT(4,1):"CHARACTER WIDTH? (2-8)"
250 ACCEPT AT(5,1):W :: DISPLAY AT(7,1):"ENTER CHARACTERS:" :: ACCEPT AT(8,1):T$ ::
H$="123456789ABCDEF" :: BIT=8
260 FOR X=1 TO LEN(T$):: CALL CHARPAT(ASC(SEG$(T$,X,1)),P$)
270 !A LOOP TO GET EACH CHARACTER - B LOOP TO MASK BITS IN CHARACTER - C(,)
STORE BITS IN ARRAY
280 FOR A=1 TO 16 STEP 2 :: FOR B=1 TO 4 :: C(INT(A/2+1),B)=SGN(POS(H$,SEG$(P$,A
,1),1)AND BIT):: C(INT(A/2+1),B+4)=SGN(POS(H$,SEG$(P$,A+1,1),1)AND BIT)
290 ! GET NEXT BIT - INCREMENT B LOOP - RESET MASK - GET NEXT CHARACTER
300 BIT=BIT/2 :: NEXT B :: BIT=8 :: NEXT A
310 ! PRINT ARRAY
320 FOR A=1 TO 8 :: FOR D=1 TO W :: FOR B=8 TO 1 STEP -1 :: IF C(B,A)THEN PRINT
#1:RPT$(SEG$(T$,X,1),10);ELSE PRINT #1:RPT$(CHR$(32),10);
330 NEXT B :: PRINT #1:CHR$(13):: NEXT D :: NEXT A :: PRINT #1:CHR$(10);CHR$(13) ::
NEXT X
340 FOR T=1 TO 100 :: NEXT T :: GOTO 250
350 CLOSE #1 :: END

```

LIBRARY SHELF: Bob Demeter

Hello and welcome to another chapter of "AS THE FAIRE GETS CLOSER". When we left last time, Sandy was counting how many days till Nov. 2nd. 50 guys were having a user group meeting off the port bow in Triton's parking lot and Texincia was wandering around River Grove looking for sailors.

At this writing, there are only 18 days left till our giant Faire. Confirmations are being finalized, tables are being counted, and activities are being planned. This year's faire should be our greatest yet. There are 30+ vendors, well known guest speakers, and activities for all. We even have the President of Mechatronics flying in from Japan. Way to go!! I think Sandy Bartels deserves a standing ovation for the long, hard and tedious hours she put into this Faire. Congratulations Sandy!! You've done an excellent job and it's much appreciated.

As you may or may not know, the show can't come off without workers. Workers in the way of volunteers. There are many behind the scene workers helping to make this faire a huge success. As the faire draws closer, we are looking for a few more good men and women to help out. Somewhere in this newsletter, Hank Ellermann should have an article about equipment needs. He also has a very generous offer to make for services rendered. Think real hard about volunteering. Not only for the physical rewards, but for the personal ones too. It's people like you (the volunteering member) the decides how well this faire comes off. Come on, give it your TI best.

Speaking of volunteers, we need a few to work the library the day of the faire. Programs will be pre-made. But, someone will have to sell them and occasionally copy a few here and there. If you've been thinking of getting more active in the group, think about the library's needs. If you'd like to volunteer, leave me a message on the User Group's BBS (312 966-2342). Or, you can call me between 10am and 4pm at 219 659-5628. If you don't want to make the long distance call, contact Grant between 10 and 11:30pm at 477-0690.

Now that I've rambled on about the faire, how about some library news? With all the preparations for the faire, I haven't done much with the library. I have only 2 new fairware programs to add. They are STAR and MACRO-ASSEMBLER.

STAR is by Michael Riccio. This 357 sector program contains 53 TM9900 assembly language routines to be used in conjunction with your Xbasic programs. All routines are used via Call Link statements in your program. Some of the routines control areas such as: Character sets, sound, color, screen access, VDP memory access, disk access, string handling, and text mode. Look for a presentation at one of the meetings soon. (\$2.00)

MACRO-ASSEMBLER is by R.A. Green of Canada. This assembler is compatible with the TI assembler except for some instructions and assembler directives not supported by the 99/4A. It has several improvements. They are:

- 1) A macro facility
- 2) Better listing and diagnostic format
- 3) A cross-reference listing

The program also includes:

- 1) A library of general purpose macros
- 2) A subroutine for I/O using keyboard and VDP, and a GPLLINK routine
- 3) A subroutine for sequential I/O's to files.

Check this one out. It's new and it's in our library now. (\$2.00)

As a courtesy to our friends from Canada, The Ottawa User Group, I have taken DM1000 out of the library for the faire. Also, I am going to contact Trio-Soft. If they so desire, I will remove the Trio-Soft disk jacket program too. That's about it for this one. Hope to see you all at the Faire. Remember to bring lots of money. Come early and stay late. C U there. Bob.

MEMBERSHIP CHAIRMAN SPEAKS: Don Jones

Hi there, sports fans! Yes, I said, sports fans! I put special emphasis on the pet name that I have given to my faithful readers as it appears that a certain Ms. Texincia Lubbock chooses to cast aspersions upon a most harmless habit of mine. More of that later. Please be informed: I shall again attempt to keep this article short.

Keep the renewals coming in. I will be manning the membership table near the entrance of the Faire again. If you wish to renew at the Faire, I will be able to accomodate you. I do request that you use a personal check made out to the Chicago Area TI Users' Group in order to pay for your renewal. Your check will then be your receipt. If this is inconvenient, I will cheerfully accept cash and render you a receipt for the amount. Also, keep in mind, you will not receive your 1987 membership card until the month of January. At that time, I shall attempt to have them stuffed inside the December 31, 1986 issue of our newsletter.

I sometimes wish that everyone would read my article. I have received a few inquiries relative to membership renewals which could have been obviated had the correspondents read my last article. If you haven't read my article in last month's newsletter, please do so. It contains all of the information that most people will need relative to membership renewals.

I would here like to publicly thank a couple of fine members of our great group who have come to my aid recently. I again found that I was again becoming over-burdened with group responsibilities. In desperation, I placed a request for volunteers up on our bulletin board. Three great guys came forward to help. Therefore, in the future, Irv Levinson will be in charge of making and mailing out new membership packets to non-attending members. My buddy, Jan Janowski, will be taking care of answering and referring correspondence which I receive. A third gentleman, who also volunteered, will receive his work assignment soon after the conclusion of the Faire. I am deeply appreciative for the offers of help which I have received. It is this kind of pitching in that makes us the best users' group in the world.

Well sports fans, I guess that now it's time for your membership chairman to eat a little crow, so to speak. You will notice, after reading the first paragraph of Ms. Texincia Lubbock's article, for our last newsletter, she presently has a case of "tight jaws" which are ostensibly directed to yours truly. Well sports fans, that's not the half of it. I have also received some irate mail from her. The reason being that I jokingly said that I would have her to sit on anyone who didn't renew their memberships. I only said this in jest as I know that Ms. Lubbock would never throw her weight around in a meretricious manner. I want to make it clear that she is a lady in every sense of the word; all 300 pounds of her! In fact, it is my fear of her weight that forces me to make this public apology as I am well aware that she is quite an accomplished Thai kick boxer. Can you imagine a foot flying at you with 300 pounds of heavenly joy attached to it? It is enough to boggle the mind. I therefore wish to publicly apologize to Ms. Texincia Lubbock in order that she will not reprogram my face during the Faire. I also want to say the the statements which I made on our B.B.S. this last summer, relative to her "buns" was done purely

in jest. It was so hard for me to resist the temptation when our president requested more buns for the hotdogs at our picnic as Ms. Lubbock has more "buns" than anyone that I have ever seen. As Mel Brooks once said Texi Boo, "When you got it, FLAUNT IT!" I also wish to state that I think that it was most cruel for Ms. Lubbock to refer to my "balding Afro" in the letter which she sent to me. Relative to her harsh statement regarding my head, I submit the following: There are three ways that you can wear your hair: a.) Parted, b.) unparted, c.) DEPARTED! It is clear that I have chosen the latter style. I must also submit that this style has one clear advantage: I never get lice. The last one that tried to land on my head slipped off and suffered a severe concussion. None of his fellow travelers have ever again even tried to land upon the domain Chrome Dome Jones! And, in closing, if you, Ms. Lubbock attempt to do any physical harm to me, I will be compelled to remove my hat and blind you! Take that as a warning.

Well sports fans, I guess that it's time for old Chrome Dome (alias the Bone Crusher) to mosey off into the sunset until the Faire. I hope to see all of you there. Don't forget to renew.

TRADING Times

Wayne Gregory would very much like to trade or sell his STAR SG 15 printer. He is interested in getting \$280 for it or trading even for an NX 10 printer from Star. You can reach him at 312-231-1720.

SOFTWARE REVIEWS: Jack Topham

A neat little patriotic program came my way which I want to share with you. ANTHEM done in XBASIC combines music and graphics to present the STAR SPANGLED BANNER along with a color display of all of our flags down thru the years, one by one. It's well done and worth the download.

Another neat program is COMMODORE THEATER. Watch graphic displays sound out the Commodore faults and then flush the pieces you know where. It's on the boards as COMMODE!

Lets get a bit more serious with DISK DISASSEMBLER from Miller Graphics. DA allows you to disassemble assembly language object code. It is designed as a learning tool, as well as a utility which allows modifying the resulting source code to suit your need(s). Code can be disassembled directly from DISK or from memory. It automatically inserts labels as needed, splits up data blocks, correctly inserts data for subroutines and set up the data for BLWPs. As code is disassembled, it can be saved to disk and/or printed out. Saved files are TIW and E/A compatible for ease of editing. DA provides for customizing the defaults to the owners system configuration. One unique default is the type of disk controller used. I entered an M for Myark which was saved for subsequent use. DA loads from any of the loaders and is a two pass disassembler. For each pass you can tell the program how you want the file disassembled. You can choose to end up with source code or HEX machine

code! The first operation of DA is to report File Information which includes type of Assy code, Compressed or Uncomp, Loader type, Load start address, No. of sectors, etc. If D/F 80, the default first free address is given for XB, MM, and E/A.

The manual is up to MG high standards as is the low price (\$19). Whether you are an avid Assy Head or just curious and game to try, this program is for you. Top drawer all around!

While I share all of your disgust with HMC, a sleeper from Vol 5 # 5 has cropped up. CARDTRIX is not a card game but rather a very powerfull and usefull program. CARDTRIX allows you to organize thoughts, receipts, personal inventory, etc on essentially 3 by 5 cards which can be sorted and searched in a variety of ways. The default max of 50 cards can be increased if you have memory expansion. Three fields are used: INDEX (8 char), SUBJECT (28 char), and TEXT (9 lines of 28 char). Cards are numbered sequentially and can be recalled and edited as required. Edit modes include COPY, ERASE, MOVE, PASTE, GO BACK, SKIP AHEAD, etc.

Sort can be on INDEX, SUBJECT, or TEXT. Each sort can be saved as a file for later recall, or printing. A companion program from the VOL 5 # 6 issue allows you to SHUFFLE your CARDS between many different cross referenced file folders. A file folder is a file set of cards sorted in some special way. Both programs are available on local BBS for downloading.

And finally MYARK's XBII vs 2.1! I had received an early BETA test version which was mighty impressive, but the released 2.1 is still better. I must assume that you have been following all my earlier comments or this review could take several pages.

XBII requires the MYARK 128 or 512K RAM card since XBII can use 128K! Thats big league stuff. 24K for each of XB program image code, strings, variables, and Assy subroutines. We should be seeing some mighty powerful programs shortly as MYARK has commissioned many of the TI big guns to develop software. Chris Faherty (TI-ARTIST) has written a slick XBII demo which MYARK sends along with the 2.1 files. The upgrade is a 2.1 EPROM for the RAM DISK and a DISK of files. The EPROM is different for the different RAM card configurations so MYARK sends the right one when you tell them what you have.

XBII includes many all new Commands and Statements. Std, 40 col Text, and Bit map modes are accessible. Call DRAW, DRAWTO, CIRCLE, POINT, RECTANGLE, FILL, DCOLOR are but some of the new Graphic commands. The Character set has been enlarged from 112 to 256 so most BASIC only programs run perfectly in XBII.

The number of SPRITES has been increased to 32 and the speed of SPRITE related utilities has been vastly increased. The overall speed of XBII is indeed 3-5 times faster than TIXB.

CALL CLEAR is replaced by CLS. DSK1 is the default so RUN, SAVE, and LOAD can be followed by only the File name. Yes RUN FILENAME is all thats needed. Imbedded in a program, RUN FN will do just that while perserving variable values. Vs 2.1 supports both INTEGER and REAL Numbers.

The Assy language loader is similar to that in E/A so that both COMPRESSED and UNCOMP code can be loaded. If a file is Assy Program Image, RUN FN will sense it and load/run the file. That I really like! MYARK has provided memory maps and Assy Language support details with the upgrade package. Great? Yes, but wait for vs 2.11 which is now complete and available for a DISK swap. It is said to have even better loader characteristics. I do have some home grown XB Assy loaders that

XBII has some trouble with. The docs lay down some ground rules that were not followed so I will have to clean them up or switch loaders. XBII is here, it is fast, it is powerful, it is but a hint of what MYARK hopes to offer in the new computer. Later I will share details on the new Commands: WRITE, MARGINS, PEEKV, POKEV, PATTERNS, VALHEX, CHDIR and FREESPACE as well as a true stop of Pre-scan. With the XBII files in RAM, XBII is loaded and reading DSK1 LOAD file in less than a minute.

Next month I hope to review some new utilities for the GRAM KRACKER which enhance both XBASIC and the E/A. From MILLER GRAPHICS, so I expect them to be hot stuff. Stay tuned In!

FROM THE OTHER ORPHANAGES

I am going to start this month off with a warning. I reviewed a borrowed copy of MFE early this year and sent \$5 to MICHAEL AMUNDSEN for a personal copy. It never came, and three letters and 7 months later it still hasn't come. He cashed my check and I got ZIP! Be warned!

Warning No. 2. The District Attorney in Eugene, OR has received enough complaints over HCM and now HCJ that an investigation has been started. \$25 a copy is a rip-off. Many have been cheated. Be warned! You can add your fuel to the fire by writing the OREGON DA in Eugene.

Some very happy news! \$20 will get you a true BASIC COMPILER! See RYTE DATA newsletter 5/14. At long last. Watch my software column for a review if my wife will loan me another \$20.

Al Stump has made the big time. His article "Hard Times #2" made the LARGO FLORIDA UG Newsletter. Nice work Al. And Jan Janowski's article on AMATUER RADIO made the next issue. They love us down in mesquite land.

The various User Groups are reporting the failure of the TI user community to subscribe to the publications that are trying to keep the 99 alive. FOR SHAME!

SMART PROGRAMMER \$15/yr 171 Mustang St Sulphur, LA 70663
GENIEL TRAVELER \$30/6 issues(disk) 835 Green Valley Dr Philadelphia, PA 19128
RYTE DATA COMPUTING \$14/yr Box 210 Mountain St Haliburton, Ontario K0M 1S0 CANADA

SUBSCRIBE TODAY-PROMOTE 99 SUPPORT

The SYSOP of the St Petersburg BBS tells about lightning hitting his phone line and burning up his modem, RS232 card, and printer. A \$10 telephone spike protector was needed. Warning #3.

The GREAT LAKES UG newsletter reminds us that XB speech can be enhanced. Join listed words with + to construct new words. Also the pre programmed phrases require a # at both ends.(ie #TRY AGAIN#). The 99 will speak FOUR from the number 4. 2=two, to, and too.

Maurice Swinnen of the WDC Ug will send you 50 programs that command

the Radio Shack CGP-115 color plotter if you send him a disk and \$2.
 TI NEWS BOX 267 LEESBURG, VA 22075.

John Behnke's VDPUTIL2 has appeared in over a dozen UG Newsletters this summer. VDPUTIL2 merged with a BASIC program will allow the program to run in XB. Available in our library. Thanks JOHN!

The secret of TIW printing more than 80 columns is out. The NE IOWA UG spilled the beans. Put these lines first in your TIW file.

Line 1 .FI;AD

Line 2 .LM 0;RM 131

Line 3 printer code for condensed print

From Grand Forks, ND I read that Rich Jurgens joined our Ug as a non-attending member and is delighted. He demonstrated the disk of programs he received at the meeting and encouraged others to join as well. I'll bet the computer season is longer in North Dakota!

32K of static RAM inside your console! John Wilforth of Jeannette, PA is looking for interest before he makes up units at about \$35. RD#1 Box 73A 15644.

You thought I forgot. MICROPENDIUM, the king of the 99 magazines. \$17/yr. It's hard to believe that any one serious about our computer hasn't already subscribed. For our new members. PO Box 1343, Round Rock, TX 78680.

The BOISE, ID UG favorably reviewed the CORCOMP Load Interrupt Switch for those that do not wish to make their own. \$12 and just plug it in. It does have an anti bounce circuit that I didn't include in mine. That's a nice touch. Used with Danny Michael's freeware Screen Dump, it's a winner.

Dr Guy Ramano reads and writes 17 languages. Has 3 PHD's and is the master of TI99 information. Call or write for info and/or next-to-free programs. AMN10N HOT LINE 116 Carl St San Francisco, CA 94117. Or call 9-4 Mon thru Sat... (415) 753-5581. It is no joke. He has over 2700 public domain programs that he will share. Drop him a line or give him a call.

One last note....Our FAIRE is being talked about by all. RYIE DATA reported "The fourth annual premier TI show in North America is taking place this year on Saturday, November 1st, 1986 sponsored by the Chicago TI 99/4A Users Group. They also reported that they have reserved space and will be there. Look for the new compiler and a new disk utility for the Corcomp TI clock. Also look for a new Hard Drive from the new computer folks at a reasonable price. DO NOT MISS THE FAIRE or ELSE! My last warning for this month.

TECH CORNER

HARD TIMES: A1 Stump

Well here it is almost FAIRE time and everyone can barely wait. In the meantime this newsletter will hopefully fill the void. Sorry to have missed last month's issue, but certain happenings during the last month or so made it virtually impossible to get the article submitted, my sincerest apologies.

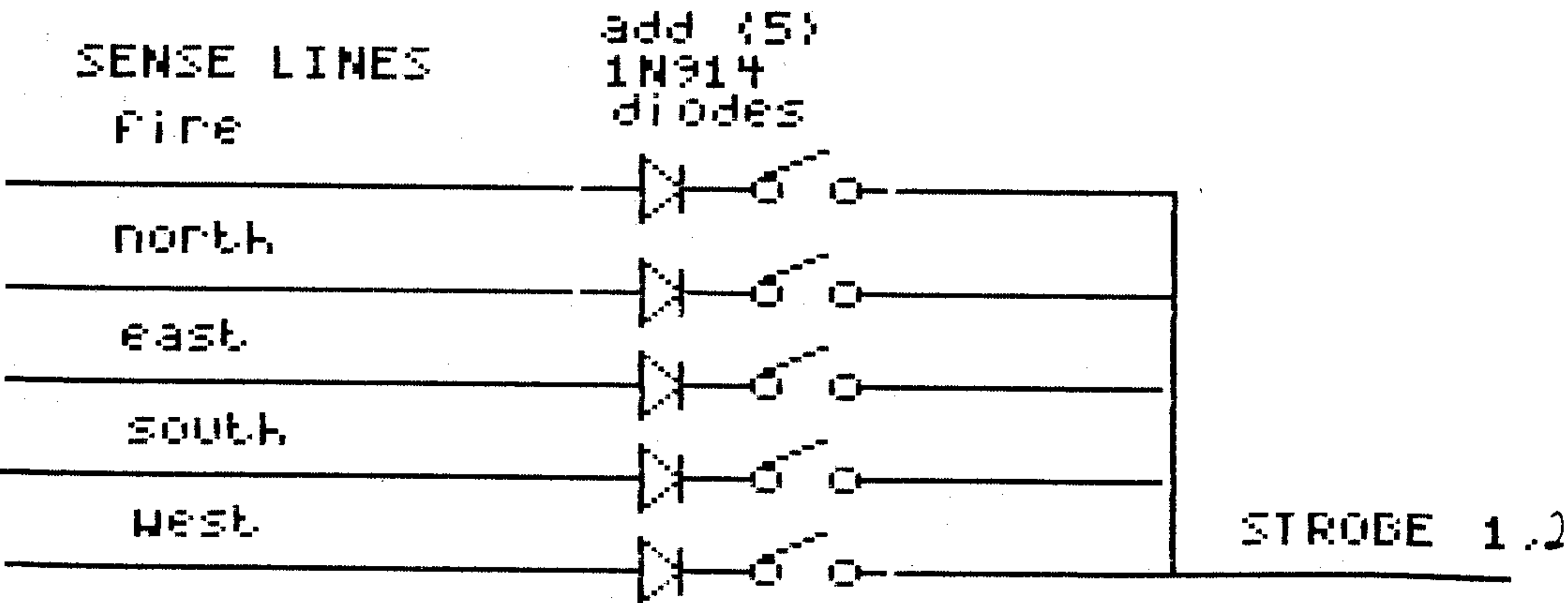
The decision was reached to give slide demos on the SUPER-CART and 32K CONSOLE memory. The chips have arrived and the boards have been purchased. I hope to have a dynamite presentation for your edification at the FAIRE. In the interim there was a minor problem brought to my attention by some users at the SEPTEMBER meeting. They have run into a problem with the joystick modification as written in the SUPER SUMMER issue. As it was pointed out to me, the TI does not like it when two different sense lines are shorted together. The FIRE, N, E, S, W lines can be shorted when two joysticks are in simultaneous use. (Why else would someone want two joysticks?) Anyway to make a long story short, I checked it out with the help of my left hand and sure enough there is a problem. I should play more games and I would have noticed it before the article went to press. The main thing is to fix it. That is what this current paragraph is about. There is a simple remedy, put a diode in each line between the sense line and the switch, with the banded end of the diode connected to the switch or whatever contact mechanism that your joysticks use. See the attached drawing. NOTE: I had to learn to use TI-ARTIST to generate that nifty drawing. The 1N914 diodes are adequate for this use and they are inexpensive. The joysticks should now function properly. Do not try the shortcut with 1 diode in the strobe line, that will still allow the problem to arise when moving in the diagonal directions with one joystick. Do not overheat the diodes and insulate them from surrounding conductive materials.

I would like to now take a few minutes to talk about the latest addition to my system. I just recently purchased a COR COMP TRIPLE TECH card. It is very neat. My speech synthesizer is now constantly hooked to the system without the little box on the side. It plugs into the top of the TRIPLE TECH card. I find this a very attractive feature. The built in clock is a nice feature, I will make good use of it in some programs I intend to write. There is some commercial software also that utilizes this feature. It slips my mind right now but there is a disk of utilities available for the clock. The last feature is the 64K printer buffer. That feature alone should save me the cost of the card. I can now send text to my printer while I am on a BBS and within a few seconds the console is back to me so that I can continue on reading messages or whatever. It also speeds up many other processes. Cataloging disks, or printing text files. One note of warning, any process that resets the system will kill the remaining contents of the buffer, also if you have the TRIPLE TECH card, the speech synthesizer MUST be mounted on it. All in all I have found it very enjoyable to have on the system. My time is spent on much more profitable activities than waiting for my GORILLA to finish printing. NOTE: The printer buffer will only work for printers that are accessed through PIO. Serial printers will not benefit from this card at all.

Let's imagine that you have purchased one of these cards. You don't need to wait for your technically competent buddy to get home. Open the box, turn off your system and fill out the warranty card while you wait for the power supply in your expansion box to drain down. Then read the instructions carefully. Now disconnect the speech synthesizer and turn it over, take a small phillips screwdriver and remove the two screws from the bottom and pull the case off. Remove the shield by taking apart the two screw and nut sets that hold it on the circuit board. Now plug it into the TRIPLE TECH card just as the manual states. Open up your PEB and find a slot near your RS232 card for your newest aquisition. Plug in your pride and joy, unplug your printer from the PIO port on the RS232 card and plug it into the port on the back of the TRIPLE TECH card. Now take the funny little cable that you weren't sure about and plug it from the RS232 PIO port to the bottom port on the TRIPLE TECH card. Follow the directions as specified in the manual and you will have no problems. They even have a built in test for the printer buffer. A quick note of interest, you now have a Z80 controlled option on your system, thats right it has a Z80 controlling the buffer.

If you have heard the rumors about the batteries of some of these cards blowing up COR COMP tech support assures me that there have been very few instances of this happening. If you are prone to bad luck there is a fix for that, this fix removes any possibility of battery problems. At least as far as blowing up goes. Get another 1N914 diode and replace R7 with the diode. Make sure that the banded end is AWAY from the battery.

I find that these cards are running between \$110.00-150.00 depending on where you spend your money. The out of reach mail order houses are usually the cheapest. Have fun and see you at the FAIRE.....bye.....



FINANCIAL UPDATE
CHICAGO AREA T199/4A USERS GROUP
SUMMARY OF CASH TRANSACTIONS
SEPTEMBER 17-OCTOBER 14, 1986

	TOTAL	FAIRE	LIBRARY	MEMBER-SHIP	OTHER
RECEIPTS	1,878.50	400.00	476.00	829.00	173.50
DISBURSEMENTS:					
MAILING	236.95		18.05	67.98	150.92
DISKS	373.40		373.40		
TABLE--RENTAL	280.00	280.00			
INSURANCE	600.00	600.00			
ADVERTISING	337.50	214.00		123.50	
T-SHIRTS	100.00	100.00			
SUNDRY	144.40	53.00	7.40	9.00	75.00
	2,072.25	1,247.00	398.85	200.48	225.92
NET DECREASE IN CASH	-193.75	-847.00	77.15	628.52	-52.42

-SPACE FOR RENT-

WOULD YOU RENT SPACE FROM ME

FULL PAGE 25.00

PRACTICAL PROGRAMMING PRACTICES:

```

100 | *****
110 | "File Print"
120 | 1986 By John Behnke
130 | Requires X-Basic
150 | Will print any DV/80
160 | file to an Epson
170 | compatible printer
180 | *****
190 CALL CLEAR :: RESTORE
200 DATA , , Select Option, ,
210 DATA (A) Very Small
220 DATA (B) Small (Light)
230 DATA (C) Small (Dark)
240 DATA (D) Medium (Light)
250 DATA (E) Medium (Dark)
260 DATA (F) Normal (Light)
270 DATA (G) Normal (Dark)
280 DATA (H) Large (Light)
290 DATA (I) Large (Dark)
300 DATA (J) Very Large
310 DATA (K) NLQ (SG-10), , ,
320 LINPUT "Enter File:":FNS
330 FOR I=1 TO 21 :: READ AS
340 PRINT AS :: NEXT I
350 CALL KEY(0,K,S)
360 IF K<65 OR K>75 THEN 400
370 OPEN #1:"PIO"
380 PRINT #1:CHR$(27);"@";
390 FOR I=1 TO (K-64)*6-6
400 READ A :: NEXT I
410 FOR I=1 TO 6 :: READ A
420 PRINT #1:CHR$(A);
430 NEXT I
440 PRINT #1:CHR$(15)
450 OPEN #2:FNS
460 LINPUT #2:AS
470 IF EOF(2) THEN 510
480 PRINT #1:AS :: GOTO 530
490 CLOSE #1 :: CLOSE #2
500 GOTO 180
510 DATA 27,83,00,27,51,10
520 DATA 27,92,01,27,48,17
530 DATA 27,71,27,48,17,17
540 DATA 27,66,02,17,17,17
550 DATA 27,66,02,27,71,17
560 DATA 27,92,01,18,17,17
570 DATA 27,92,01,27,69,18
580 DATA 27,87,01,17,17,17
590 DATA 27,87,01,27,69,17
600 DATA 27,87,01,27,69,17
610 DATA 27,66,04,27,85,01
620 END

```

```

32320 FOR B=1 TO 16 STEP 2 :
: C=ASC(SEQ$(AS,B,1)) :: D=A
SC(SEQ$(AS,B+1,1)) :: C=(C>
57)*7-48+C)*16+(D>57)*7-48+D
32330 CALL LINK("POKEV",767+
B*A+(B+1)/2,C) :: NEXT B :
32340 SUBEND :: SUB COLOR(A,
B,C) :: CALL LINK("POKEV",20
63+A,(B-1)*16+C-1) :: SUBEND

```

"VDPUTIL3"

By John Behnke

This program allows you to run Basic programs which use character sets 15 and 16 in X-Basic which does not let you use those sets as they are used for sprites. Since Basic programs do not use sprites, this area can be used. This program rewrites the "CHAR" and "COLOR" subroutines so they are able to access these sets in X-Basic. The advantage of this is that your Basic program will run slightly faster and those large Basic programs which will not run with a drive system will do so in X-Basic due to the increased memory.

Instructions:

1. Enter this program in.
2. TYPE: SAVE DSK1.VDPUTIL3, MERGE
3. Load program into X-Basic
4. TYPE: MERGE DSK1.VDPUTIL3
5. TYPE: SAVE DSK1.xxx

You may now run this program in X-Basic.

```

1 CALL VDPUTIL3
32250 SUB VDPUTIL3 :: CALL I
NIT :: CALL LOAD(8196,63,232
) :: CALL LOAD(16360,80,79,7
5,69,86,32,37,164) :: CALL L
OAD(9491,100)
32260 CALL LOAD(9636,2,224,3
7,20,3,0,0,0,4,192,2,1,0,1,2
00,1,37,18,4,32,32,12,4,32,3
2,24,18,184)
32270 CALL LOAD(9664,200,32,
131,74,37,0,184,32,131,18,37
,19,2,3,0,2)
32280 CALL LOAD(9680,4,192,1
92,67,4,32,32,12,4,32,32,24,
18,184,216,224,131,75,37,0,5
,131,136,3)
32290 CALL LOAD(9704,37,18,2
2,242,192,32,37,0,2,1,37,2,1
92,131,2,34,255,254,4,32,32,
36)
32300 CALL LOAD(3726,4,192,2
16,0,131,124,2,224,131,224,4
,96,0,112) :: CALL LOAD(8194
,39,4) :: SUBEND
32310 SUB CHAR(A,AS) :: AS=A
$8"0000000000000000"

```

FULL DUPLEX: Irwin Goldstein

The BIG news these days is the upcoming TI FAIRE at Triton College, Nov 1st at 9A.M. To receive the latest info about the Faire, call the TI Users Group Bulletin Board System at 312-966-2342. As with any event that our Group sponsors the BBS is the best source of up-to-date information.

Our Board now has nearly 500 passworded members. I personally know of no other BBS in existence that has a following like ours. We also have members from all over the country, many of whom are frequent callers and all thoroughly enjoy the board.

Not a whole lot has been going on with the BBS as far as any improvements lately due to the amount of effort that has to go into preparing for the Faire. WE are looking for volunteers to help man the TI Users Group booth and help in working the library and membership booths. We also need help in procuring monitors(color pls) and tv's for use by our vendors at the faire. It is a great help for our vendors that they dont have to drag from far away lands all their equipment, so we offered to help wherever we could.

We are looking forward to meeting our members who do not come to our regular monthly meetings. The Faire often become a sort of homecoming for all our members who are otherwise an address on an envelope rather than a smiling face. I hope to meet many of our members who call the BBS but whom I have never seen. I am the funny looking guy with the small bald spot on the back of my head(not to be confused with Don Jones) whom also has a small bald spot on the back of his head.

Our December meeting will feature two very important and fun items which we feel everyone should partake in. First, we will hold elections for president of our Club. The executive group has made a recommendation for whom we feel would be a good leader, however, we are not the final say. Anyone may run for this office and a regular vote will be taken by a show of hands as to who will be elected. This is important as the person chosen will have their hands full and we should all be present to voice our opinion as to who that person should be; remember, the decision is YOURS to make.

The second event you will not want to miss the our anual ti flee market to be held just after the election process. This is a great chance for those of you wanting to build onto your existing systems to do so at a super low price, or perhaps get rid of some of that equipment you dont want anymore. We figure tht if you havent spent all your money at the faire, then you will at the flee market. All this goes to show that there is no shortage of supplies available for the TI computer, at least not as long as our Users Group is around. After all, we actually had to turn down some vendors this year due to lack of space available in the Ironwood room of Triton College. Perhaps next year we will rent Mc Cormick Place.

If anyone needs instructions as to how to best use our BBS, we will have about 90 or more copies of Sheila Baumanns well written instruction manual. These manuals will be given out on request to all who want one and at no charge. Remember, Our TI Faire is the invention of our users

group and as members we should do all we can to support it. I hope to see each and every one of you there this year. It is probably the biggest event to happen in the TI world and we should all be a part of it. And by all means volunteer is at all possible, we need your help.

As always, dont forget to call the board at 312-966-2342: we are open 24 hours a day, 7 days a week,we would never even think of turning you off!

RAM BUGS?: Texincia Lubbock

Texincia is on vacation this month. Her column will return next month.

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By John B...



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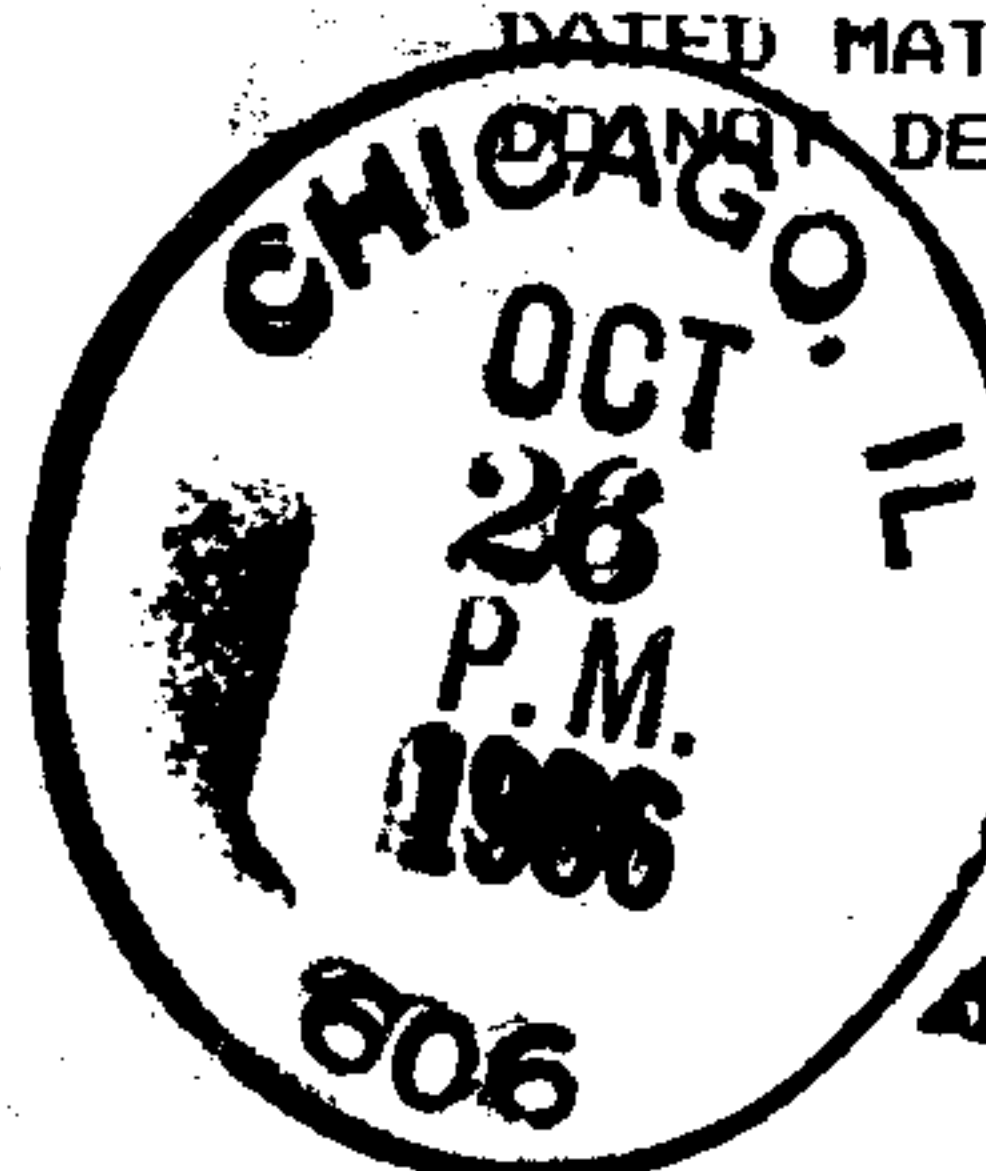
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REMARKS: Carol Goldstein

Well, this is the last issue before the FAIRE. This should prove to be the biggest and the best on that our group has put together yet. An awful lot of people have put an awful lot of time and effort into it and we hope to see everyone out there.

Sorry to those members who came out to the meeting last month. The meeting was canceled due to the flooded conditions of River Grove. Triton college was closed. Notice of the meeting cancellation was put up on the Users Group BBS. This is the best way we have to let everyone know of any situation such as this. It is impossible for us to try to contact all our members since we are well over 500 strong now. Please, when there is any doubt about any meeting, call the BBS.

I apologize for returning to the old format with this issue. I am just getting over a bout with viral pneumonia and did not have the strength to work with the titles this month. Hopefully next month everything will be back to normal.

See you at the FAIRE!
